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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,310	07/02/2001	Ronen Sommer	SOMMER1	6600

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EXAMINER	
CURS, NATHAN M	
ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/895,310	SOMMER ET AL.	
	Examiner	Art Unit	
	Nathan Curs	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 10 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 10, the specification as originally filed does not disclose that the aligner generates a dLOF indication *only* in response to a failure occurring in the OTN.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 2, 6-9, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conti et al. (hereinafter "Conti") (European Patent Publication European Patent Office Publication No. 1014603 A2) in view of Maeda ("Management and control of transparent optical

networks"; Maeda, M.W.; Selected Areas in Communications, IEEE Journal on; Vol 16, Issue 7, Sept. 1998, Pages: 1008 - 1023.).

Regarding claim 1, Conti discloses apparatus for suppressing an alarm from being generated due to a failure in an optical transport network (OTN) connected to synchronous communication equipment, the synchronous communication equipment forming at least one component in a synchronous communication network (abstract), the apparatus comprising: a failure indication detector (fig. 5, "OTU_AIS detection") operative to detect a failure indication pattern generated only in response to a failure occurring in the OTN (paragraphs 0014 and 0016, where the RS_AIS and OTN_AIS are failure indication patterns, the OTN_AIS generated only in response to a failure occurring in the OTN); and a correlating unit (fig. 3, "SDH compliant Transponder") adapted to be operatively associated with said failure indication detector and said synchronous communication equipment, the correlating unit suppressing a Loss-of-Signal (LOS) alarm in said synchronous communication equipment in response to receiving an indication that said failure indication pattern has been detected at the failure indication detector (paragraphs 0011-0014, where the redundant LOS signal that would be generated in the SDH equipment is suppressed by the use of the RS_AIS signal). Conti discloses the motivation to prevent misleading LOS alarming in synchronous equipment cause by a failure in the OTN, since in general the OTN equipment does not operate at the SDH level (paragraphs 0003-0006, 0011 and 0012); however, Conti does not disclose that the correlating unit suppresses a Loss-of-Frame (LOF) alarm in said synchronous communication equipment in response to receiving both an indication that said failure indication pattern has been detected at the failure indication detector and receiving a LOF defect (dLOF) indication from said synchronous communication equipment. Maeda discloses an additional problem in interfacing the OTN with a synchronous network; specifically, that since in general optical networking architecture does not support

synchronous digital signal monitoring, synchronous digital failures (e.g. LOF) cannot be detected in the OTN, even though they may occur due to a failure in the OTN (page 1017, section A, lines 39-40 and lines 43-61). Given the limitations of the OTN in monitoring digital signal failures, as taught by Maeda, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Conti to also suppress LOF defects detected at the SDH equipment when the RS_AIS is present (due to the OTN_AIS generated by an internal OTN failure), in order to provide the benefit of suppressing misleading digital failure alarms at the SDH equipment in addition to suppressing misleading LOS failures.

Regarding claim 2, the combination of Conti and Maeda disclose apparatus according to claim 1, wherein the transponder with the failure indication detector is at least adjacent to the synchronous communication equipment (fig. 5, element "OTU_AIS detection"), but do not explicitly mention that the failure indication detector is comprised in said synchronous communication equipment. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to integrate the transponder into the SDH equipment, to provide the benefit of an integrated equipment shelf and simplified equipment footprint.

Regarding claim 6, the combination of Conti and Maeda disclose apparatus according to claim 1, wherein said correlating unit is operative to provide to an element management system (EMS) associated with the synchronous communication equipment a failure determination indication, said failure determination indication being used by the EMS to suppress the LOF alarm in the synchronous communication equipment (Conti: paragraphs 0003 and 0014, where the RS_AIS signal is intended to benefit the management system by indicating that it should suppress what would otherwise be misleading alarms generated at the SDH equipment due to an internal OTN failure).

Regarding claim 7, the combination of Conti and Maeda disclose apparatus according to claim 1, wherein said indication of detection of said failure indication pattern comprises the failure indication pattern (Conti: paragraph 0014, where the RS_AIS signal is the failure indication pattern).

Regarding claims 8 and 9, the combination of Conti and Maeda disclose the apparatus according to claim 7, but do not disclose that said failure indication pattern comprises a PN-11 sequence characterized by a polynomial of the type 1+x.sup.9+x.sup.11. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the claimed pattern, since the applicant indicates "the failure indication pattern may preferably include a PN-11 failure indication pattern or sequence characterized by the polynomial of the type $1 + x^9 + x^{11}$... according to the recommendation set forth in ITU-T G.709" (specification page 7, lines 10-14). This is not a disclosure of criticality for the PN-11 pattern characterized by the polynomial of the type $1 + x^9 + x^{11}$. Absent any teaching of criticality, and further considering that the disclosed pattern is merely used to conform to the ITU-T G.709 recommendation, the claimed pattern would have been an obvious engineering design choice.

Regarding claim 12, Conti discloses an optical communication network comprising: an optical transport network (OTN) comprising an OTN element in which a failure indication generator is operative to generate a failure indication pattern only in response to a failure occurring in the OTN (paragraphs 0014 and 0016, where the RS_AIS and OTN_AIS are failure indication patterns, the OTN_AIS generated only in response to a failure occurring in the OTN); and synchronous communication network operatively connected to said OTN element comprising a synchronous communication equipment (fig. 5), the synchronous communication equipment comprising: a failure indication detector (fig. 5, "OTU_AIS detection") operative to detect said failure indication pattern (paragraphs 0014 and 0016); and a correlating unit (fig. 3,

"SDH compliant Transponder") operatively associated with said failure indication detector and operative to suppress a Loss-of-Signal (LOS) alarm in the synchronous communication equipment in response to receiving an indication that said failure indication pattern has been detected from the failure indication detector (paragraphs 0011-0014, where the redundant LOS signal that would be generated in the SDH equipment is suppressed by the use of the RS_AIS signal). Conti discloses the motivation to prevent misleading LOS alarming in synchronous equipment cause by a failure in the OTN, since in general the OTN equipment does not operate at the SDH level (paragraphs 0003-0006, 0011 and 0012); however, Conti does not disclose that the correlating unit suppresses a Loss-of-Frame (LOF) alarm in said synchronous communication equipment in response to receiving both an indication that said failure indication pattern has been detected at the failure indication detector and receiving a LOF defect (dLOF) indication from said synchronous communication equipment. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Maeda with Conti as described above for claim 1.

Regarding claim 13, Conti discloses a method for suppressing an alarm for being generated due to a failure in an optical transport network (OTN) that is connected to a synchronous communication network (abstract), the synchronous communication network comprising a synchronous communication equipment (fig. 5), the method comprising: detecting a failure indication pattern which is generated only in response to a failure occurring in the OTN (paragraphs 0014 and 0016, where the RS_AIS and OTN_AIS are failure indication patterns, the OTN_AIS generated only in response to a failure occurring in the OTN); providing an indication of detection of said failure indication pattern and a Loss-of-Signal (LOS) indication from said synchronous communication network and suppressing a LOS alarm in said synchronous communication equipment in response to said providing (paragraphs 0011-0014,

where the redundant LOS signal that would be generated in the SDH equipment is suppressed by the use of the RS_AIS signal). Conti discloses the motivation to prevent misleading LOS alarming in synchronous equipment cause by a failure in the OTN, since in general the OTN equipment does not operate at the SDH level (paragraphs 0003-0006, 0011 and 0012); however, Conti does not disclose that the correlating unit suppresses a Loss-of-Frame (LOF) alarm in said synchronous communication equipment in response to receiving both an indication that said failure indication pattern has been detected at the failure indication detector and receiving a LOF defect (dLOF) indication from said synchronous communication equipment. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Maeda with Conti as described above for claim 1.

5. Claims 3, 4, 5, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conti in view of Maeda, as applied to claims 1, 2, 6-9, 12 and 13 above, and further in view of Kong ("2.488 Gb/s SONET multiplexer/demultiplexer with frame detection capability"; Kong, D.T.; Selected Areas in Communications, IEEE Journal on; Vol 9, Issue 5, June 1991, Pages: 726-731).

Regarding claim 3, the combination of Conti and Maeda disclose apparatus according to claim 1, but do not explicitly disclose that said synchronous communication equipment comprises an aligner, and said correlating unit receives said dLOF indication from said aligner. However, it is well know in the art that an aligner in SONET/SDH is the conventional means for detecting an LOF defect, for example as shown by Kong (fig. 7 and section IV, lines 1-11). It would have been obvious to one of ordinary skill in the art at the time of the invention that an aligner would be present in the SDH equipment of the combination of Conti and Maeda, as an aligner is the conventional means for detecting an LOF defect in SONET/SDH systems. Further, it would have been obvious to one of ordinary skill in the art at the time of the invention

to associate that the aligner would have to be associated with the transponder of the combination of Conti and Maeda to suppress LOF defects detected at the SDH equipment when the RS_AIS is present, as described above for claim 1.

Regarding claim 4, the combination of Conti, Maeda and Kong disclose apparatus according to claim 3, wherein said aligner is operative to generate said dLOF indication in response to an incorrect synchronous frame alignment signal (FAS) (Kong: fig. 7 and section IV, lines 1-11).

Regarding claim 5, the combination of Conti, Maeda and Kong disclose apparatus according to claim 4, wherein said incorrect synchronous FAS is declared when the aligner does not detect a valid synchronous FAS within a predetermined time period (Kong: fig. 7 and section IV, lines 1-11).

Regarding claim 10, Conti discloses synchronous communication equipment operative in a synchronous communication network, said equipment comprising: a failure indication detector (fig. 5, "OTU_AIS detection") operative to detect a failure indication pattern generated only in response to a failure occurring in an optical transport network OTN operatively associated with the synchronous communication network (paragraphs 0014 and 0016, where the RS_AIS and OTN_AIS are failure indication patterns, the OTN_AIS generated only in response to a failure occurring in the OTN); and a correlating unit (fig. 3, "SDH compliant Transponder") operatively associated with said failure indication detector and said aligner, and operative to suppress a Loss-of-Signal (LOS) alarm in the synchronous communication equipment in response to receiving an indication that said failure indication pattern has been detected from the failure indication detector (paragraphs 0011-0014, where the redundant LOS signal that would be generated in the SDH equipment is suppressed by the use of the RS_AIS signal). Conti discloses the motivation to prevent misleading LOS alarming in synchronous equipment cause

by a failure in the OTN, since in general the OTN equipment does not operate at the SDH level (paragraphs 0003-0006, 0011 and 0012); however, Conti does not disclose that the correlating unit suppresses a Loss-of-Frame (LOF) alarm in said synchronous communication equipment in response to receiving both an indication that said failure indication pattern has been detected at the failure indication detector and receiving a LOF defect (dLOF) indication from said synchronous communication equipment. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Maeda with Conti as described above for claim 1. In addition, the combination of Conti and Maeda does not explicitly disclose that said synchronous communication equipment comprises an aligner operative to generate a Loss-of-Frame defect (dLOF) indication in response to said failure occurring in the OTN, and said correlating unit receives said dLOF indication from said aligner. However, it is well know in the art that an aligner in SONET/SDH is the conventional means for detecting an LOF defect, for example as shown by Kong (fig. 7 and section IV, lines 1-11). It would have been obvious to one of ordinary skill in the art at the time of the invention that an aligner would be present in the SDH equipment of the combination of Conti and Maeda, as an aligner is the conventional means for detecting an LOF defect in SONET/SDH systems. Further, it would have been obvious to one of ordinary skill in the art at the time of the invention to associate that the aligner would have to be associated with the transponder of the combination of Conti and Maeda to suppress LOF defects detected at the SDH equipment when the RS_AIS is present.

Regarding claim 11, the combination of Conti, Maeda and Kong discloses synchronous communication equipment according to claim 10, further comprising an element management system (EMS) operatively associated with the correlating unit and operative to receive from the correlating unit a failure determination indication in response to reception at the correlating unit

of said indication of detection of said failure indication pattern and said dLOF indication, and to employ said failure determination indication to suppress the LOF alarm in the synchronous communication equipment (Conti: paragraphs 0003 and 0014, where the RS_AIS signal is intended to benefit the management system by indicating that it should suppress what would otherwise be misleading alarms generated at the SDH equipment due to an internal OTN failure).

Response to Arguments

6. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Any inquiry concerning this communication from the examiner should be directed to N. Curs whose telephone number is (571) 272-3028. The examiner can normally be reached M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached at (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

JASON CHAN
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